

Patent Application US/07/715,272

#2

## SEQUENCE LISTING

1

## 2 (1) GENERAL INFORMATION:

3 (i) APPLICANT: Carter, Paul J.  
4 Presta, Leonard G.

5 (ii) TITLE OF INVENTION: Immunoglobulin Variants

6 (iii) NUMBER OF SEQUENCES: 10

7 (iv) CORRESPONDENCE ADDRESS:

8 (A) ADDRESSEE: Genentech, Inc.  
9 (B) STREET: 460 Point San Bruno Blvd  
10 (C) CITY: South San Francisco  
11 (D) STATE: California  
12 (E) COUNTRY: USA  
13 (F) ZIP: 94080

14 (v) COMPUTER READABLE FORM:

15 (A) MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk  
16 (B) COMPUTER: IBM PC compatible  
17 (C) OPERATING SYSTEM: PC-DOS/MS-DOS  
18 (D) SOFTWARE: patin (Genentech)

19 (vi) CURRENT APPLICATION DATA:

20 (A) APPLICATION NUMBER:  
21 (B) FILING DATE: 14-June-1991  
22 (C) CLASSIFICATION:

23 (vii) PRIOR APPLICATION DATA:

24 (A) APPLICATION NUMBER:  
25 (B) FILING DATE:

26 (viii) ATTORNEY/AGENT INFORMATION:

27 (A) NAME: Adler, Carolyn R.  
28 (B) REGISTRATION NUMBER: 32,324  
29 (C) REFERENCE/DOCKET NUMBER: 709

30 (ix) TELECOMMUNICATION INFORMATION:

31 (A) TELEPHONE: 415/266-2614  
32 (B) TELEFAX: 415/952-9881  
33 (C) TELEX: 910/371-7168

34 (2) INFORMATION FOR SEQ ID NO:1:

35 (i) SEQUENCE CHARACTERISTICS:

36 (A) LENGTH: 109 amino acids  
37 (B) TYPE: amino acid  
38 (D) TOPOLOGY: linear

39 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

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54 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val  
55 1 5 10 15  
56  
57 Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Asn  
58 20 25 30  
59  
60 Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
61 35 40 45  
62  
63 Leu Leu Ile Tyr Ser Ala Ser Phe Leu Glu Ser Gly Val Pro Ser  
64 50 55 60  
65  
66 Arg Phe Ser Gly Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile  
67 65 70 75  
68  
69 Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln  
70 80 85 90  
71  
72 His Tyr Thr Thr Pro Pro Thr Phe Gly Gln Gly Thr Lys Val Glu  
73 95 100 105  
74  
75 Ile Lys Arg Thr  
76 109  
77  
78 (2) INFORMATION FOR SEQ ID NO:2:  
79  
80 (i) SEQUENCE CHARACTERISTICS:  
81 (A) LENGTH: 120 amino acids  
82 (B) TYPE: amino acid  
83 (D) TOPOLOGY: linear  
84  
85 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:  
86  
87 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly  
88 1 5 10 15  
89  
90 Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Ile Lys  
91 20 25 30  
92  
93 Asp Thr Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
94 35 40 45  
95  
96 Glu Trp Val Ala Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg Tyr  
97 50 55 60  
98  
99 Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser  
100 65 70 75  
101  
102 Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp  
103 80 85 90  
104  
105 Thr Ala Val Tyr Tyr Cys Ser Arg Trp Gly Gly Asp Gly Phe Tyr  
106 95 100 105

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107  
108 Ala Met Asp Val Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
109 110 115 120  
110  
111  
112 (2) INFORMATION FOR SEQ ID NO:3:  
113

114 (i) SEQUENCE CHARACTERISTICS:  
115 (A) LENGTH: 109 amino acids  
116 (B) TYPE: amino acid  
117 (D) TOPOLOGY: linear

118  
119 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:  
120  
121 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val  
122 1 5 10 15  
123  
124 Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Ser  
125 20 25 30  
126  
127 Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys  
128 35 40 45  
129  
130 Leu Leu Ile Tyr Ala Ala Ser Ser Leu Glu Ser Gly Val Pro Ser  
131 50 55 60  
132  
133 Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile  
134 65 70 75  
135  
136 Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln  
137 80 85 90  
138  
139 Tyr Asn Ser Leu Pro Tyr Thr Phe Gly Gln Gly Thr Lys Val Glu  
140 95 100 105  
141  
142 Ile Lys Arg Thr  
143 109  
144  
145 (2) INFORMATION FOR SEQ ID NO:4:  
146

147 (i) SEQUENCE CHARACTERISTICS:  
148 (A) LENGTH: 120 amino acids  
149 (B) TYPE: amino acid  
150 (D) TOPOLOGY: linear

151  
152 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:  
153  
154 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly  
155 1 5 10 15  
156  
157 Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser  
158 20 25 30  
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160 Asp Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
161 35 40 45  
162  
163 Glu Trp Val Ala Val Ile Ser Glu Asn Gly Gly Tyr Thr Arg Tyr  
164 50 55 60  
165  
166 Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Ala Asp Thr Ser  
167 65 70 75  
168  
169 Lys Asn Thr Ala Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp  
170 80 85 90  
171  
172 Thr Ala Val Tyr Tyr Cys Ser Arg Trp Gly Gly Asp Gly Phe Tyr  
173 95 100 105  
174  
175 Ala Met Asp Val Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
176 110 115 120  
177  
178  
179 (2) INFORMATION FOR SEQ ID NO:5:  
180  
181 (i) SEQUENCE CHARACTERISTICS:  
182 (A) LENGTH: 109 amino acids  
183 (B) TYPE: amino acid  
184 (D) TOPOLOGY: linear  
185  
186 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:  
187  
188 Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val  
189 1 5 10 15  
190  
191 Gly Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Asn  
192 20 25 30  
193  
194 Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro Gly His Ser Pro Lys  
195 35 40 45  
196  
197 Leu Leu Ile Tyr Ser Ala Ser Phe Arg Tyr Thr Gly Val Pro Asp  
198 50 55 60  
199  
200 Arg Phe Thr Gly Asn Arg Ser Gly Thr Asp Phe Thr Phe Thr Ile  
201 65 70 75  
202  
203 Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln  
204 80 85 90  
205  
206 His Tyr Thr Thr Pro Pro Thr Phe Gly Gly Thr Lys Leu Glu  
207 95 100 105  
208  
209 Ile Lys Arg Ala  
210 109  
211  
212 (2) INFORMATION FOR SEQ ID NO:6:

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213

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 120 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

218

## 219 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

220

221 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly  
222 1 5 10 15

223

224 Ala Ser Leu Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys  
225 20 25 30

226

227 Asp Thr Tyr Ile His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu  
228 35 40 45

229

230 Glu Trp Ile Gly Arg Ile Tyr Pro Thr Asn Gly Tyr Thr Arg Tyr  
231 50 55 60

232

233 Asp Pro Lys Phe Gln Asp Lys Ala Thr Ile Thr Ala Asp Thr Ser  
234 65 70 75

235

236 Ser Asn Thr Ala Tyr Leu Gln Val Ser Arg Leu Thr Ser Glu Asp  
237 80 85 90

238

239 Thr Ala Val Tyr Tyr Cys Ser Arg Trp Gly Gly Asp Gly Phe Tyr  
240 95 100 105

241

242 Ala Met Asp Tyr Trp Gly Gln Gly Ala Ser Val Thr Val Ser Ser  
243 110 115 120

244

245

## 246 (2) INFORMATION FOR SEQ ID NO:7:

247

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 bases
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

253

## 254 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

255

256

257 TCCGATATCC AGCTGACCCA GTCTCCA 27

258

259

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## 261 (2) INFORMATION FOR SEQ ID NO:8:

262

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 bases
- (B) TYPE: nucleic acid

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266 (C) STRANDEDNESS: single  
267 (D) TOPOLOGY: linear

268  
269 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

270  
271 GTTTGATCTC CAGCTTGGTA CGXXCDCCGA A 31

X's are not valid according  
to the rule.

272  
273  
274  
275  
276 (2) INFORMATION FOR SEQ ID NO:9:

277  
278 (i) SEQUENCE CHARACTERISTICS:  
279 (A) LENGTH: 22 bases  
280 (B) TYPE: nucleic acid  
281 (C) STRANDEDNESS: single  
282 (D) TOPOLOGY: linear

283  
284 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

285  
286 AGGTAXAXCT GCAGXAGTCX GG 22

287  
288  
289  
290  
291 (2) INFORMATION FOR SEQ ID NO:10:

292  
293 (i) SEQUENCE CHARACTERISTICS:  
294 (A) LENGTH: 34 bases  
295 (B) TYPE: nucleic acid  
296 (C) STRANDEDNESS: single  
297 (D) TOPOLOGY: linear

298  
299 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

300  
301  
302 TGAGGAGACG GTGACCGTGG TCCCTTGGCC CCAG 34

PAGE: 1

SEQUENCE VERIFICATION REPORT  
PATENT APPLICATION US/07/715,272

DATE: 06/25/91  
TIME: 10:32:20

LINE ERROR

ORIGINAL TEXT

272 Wrong Nucleic Acid Designator  
269 Entered and Calc. Seq. Length differ or due to  
287 Wrong Nucleic Acid Designator  
284 Entered and Calc. Seq. Length differ

GTGGATCTC CAGCTTGGTA CGXXCDCCGA A 31  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:  
AGGTXAXCT GCAGXAGTCX GG 22  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

PAGE: 1

SEQUENCE MISSING ITEM REPORT  
PATENT APPLICATION US/07/715,272

DATE: 06/25/91  
TIME: 10:32:20

MANDATORY IDENTIFIER THAT WAS NOT FOUND

PAGE: 1

SEQUENCE CORRECTION REPORT  
PATENT APPLICATION US/07/715,272

DATE: 06/25/91  
TIME: 10:32:20

LINE ORIGINAL TEXT

CORRECTED TEXT